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about it, that there is yet another irregularity in the Tides, which never fails, and is no less extraordinary, than what I have been mentioning: which is, That, whereas between the *Vernal* and *Autumnal Equinoxes*, that is, for six Moneths together, the Course of irregular Tides about the Quartermoons, is, to run all day, that is, twelve hours, as from about $5\frac{1}{2}$ to $9\frac{1}{2}$, $10\frac{1}{2}$ to $10\frac{1}{4}$ &c. *Eastward*, and all night, that is, twelve hours more, *Westward*: during the other six Moneths, from the *Autumnal* to the *Vernal Equinox*, the Current runs all day *Westward*, and all Night *Eastward*.

Of this, though I had not the opportunity to be an Eye-witness, as of the other, yet I do not at all doubt, having received so credible Information of it.

To penetrate into the *Causes* of these strange Reciprocations of the Tides, would require exact descriptions of the Situation, Shape, and Extent of every piece of the adjacent Coasts of *Eust* and *Harris*; the Rocks, Sands, Shelves, Promontorys, Bays, Lakes, Depths, and other Circumstances, which I cannot now set down with any certainty, or accurateness; seeing, they are to be found in no *Map*, neither had I any opportunity to survey them; nor do they now occur to my Memory, as they did some years ago, when upon occasion I ventured to make a *Map* of this whole *Frith of Berneray*, which not having copied, I cannot adventure to beat it out again.

Monsieur Auzout's Judgment touching the Apertures of Object-Glasses, and their Proportions, in respect of the several Lengths of Telescopes.

This Author, observing in a small *F. encl Trait* lately written by him to a Countryman of his, Monsieur *L' Abbe Charles*: That great *Optick Glasses* have almost never as great an *Aperture* as the small ones, in proportion to what they Magnifie, and that therefore they must be more dim; takes occasion to inform

the Reader, that he hath found, that the *Apertures*, which *Optick-Glasses* can bear with distinctnes, are in about a *subduplicate proportion* to their *Lengths*; whereof he tells us he intends to give the reason and demonstration in his *Diopticks*, which he is now writing, and intends to finish, as soon as his Health will permit. In the mean time, he presents the *Reader* with a *Table* of such *Apertures*; which is here exhibited to the Consideration of the Ingenious, there being of this *French Book* but one Copy, that is known, in *England*.

A TABLE of the Apertures of Object-Glasses.

The Points put to some of these Numbers denote Fractions.

Lengths of Glasses.		For excellent ones.		For good ones.		For ordinary Glasses.		Lengths of Glasses.		For excellent ones.		For good ones.		For ordinary ones.	
Feet,	Inches.	Inch.	Lines.	Inch.	Lines.	Inch.	Lines.	Feet,	Inches.	Inch.	Lines.	Inch.	Lines.	Inch.	Lines.
4		4		4		3	25	3		4	2	10	2	4	
6		5		5		4	30	3		8	3	2	2	7	
9		7		6		5	35	4		0	3	4	2	10	
10		8		7		6	40	4		3	3	7	3	.	
11		9		8		7	45	4		6	3	10	3	2	
12	0	11		10		8	50	4		9	4	0	3	4	
12	6	0		11		9	55	5		0	4	3	3	6	
13	0	11		0		10	60	5		2	4	6	3	8	
13	6	2	1	1		11	65	5		4	4	8	3	10	
14	0	4	1	2	1	0	70	5		7	4	10	4	.	
14	6	5	1	3	1	0	75	5		9	5	0	4	2	
15	0	6	1	4	1	1	80	5		11	5	2	4	5	
16	1	7	1	5	1	2	90	6		4	5	6	4	7	
17	1	9	1	6	1	3	100	6		8	5	9	4	10	
18	1	10	1	8	1	4	120	7		5	6	5	5	3	
19	1	11	1	9	1	5	150	8		0	7	0	5	11	
20	2	11	10	1	6	200	9		6	8	0	6	9	9	
21	2	4	2	0	1	8	250	10		6	9	2	7	8	
22	2	6	2	2	1	9	300	11		6	10	0	8	5	
23	2	8	2	4	1	11	350	12		6	10	9	9	0	
24	2	10	2	6	2	1	400	13		4	11	6	9	8	